



60-3DMEA

60-3DMEA100/12/40iR-Ti, 60-3DMEA200/12/50iR-Ti 60-3DMEA200/12/80iR-Ti, 60-3DMEA250/12/100iR-Ti

Layout



3D Structure



Diameter of the Electrode base: 100 µm

Advantages

- The 3D structure is particularly well suited for acute tissue slice preparations.
- The tip-shaped electrodes are able to penetrate through the initial outer dead cell layer arising from the slice preparation process.
- The 3D electrodes also allow more efficient electrical stimulation of the cells.

November 2019

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Temperature compatibility Dimensions (W x D x H) Base material Track material Contact pads Electrode diameter Electrode height in total Electrode base Electrode tip Interelectrode distance (center to center) Electrode material Isolation material Electrode impedance Electrode layout grid Number of recording electrodes Number of reference electrodes Software Multi Channnel Experimenter

Technical Specifications

0 - 125 °C 49 mm x 49 mm x 1 mm Glass Ti (Titanium) TiN (Titanium nitride) 12 µm 40, 50, 80 or 100 µm (etched from glass) diameter: 100 µm diameter: 12 µm, height: 20 µm 100 µm, 200 µm or 250 µm

TiN (Titanium nitride) Silicon nitride (SiN) $150 \text{ k}\Omega$ 8 x 8 59

1 internal reference electrode (iR)

MEA Configuration 2 dim. (MEA) or Configuration

MEA Perfusion Chamber

(w/o) Without ring (gr) Glass ring ID +/- 19 mm, OD +/- 24 mm, height 6 / 12 mm (pr) Plastic ring without thread ID 26.5 mm, OD 30 mm, height 6 / 15 mmm (pr-T) Plastic ring with thread ID 26 mm, OD 30 mm, height 6 / 15 mmm

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MC_Rack

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Product information is subject to change without notice.





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Layout

MEAs are not symmetrical! MEAs with internal reference electrode should be placed with reference electrode to the left side when looking directly to the opened amplifier.

	21 3	2 31	44 4	3 41	42 (2 51	53 (54 61	62 71	
33	Amplifier	Pins								63
22				⊏la atua						72
12				31		(51)	(61)	$\overline{(71)}$		82
23				\bigcirc	\bigcirc	\bigcirc	Ċ	\bigcirc		73
13		12	22	32	42	52	62	72	82	83
34		(13)	$\overline{(23)}$	(33)	(43)	(53)	63	(73)	(83)	64
24			\Box	\bigcirc		U	\bigcirc	\mathbf{O}	\bigcirc	74
14		14	24	34	(44)	54	64	74	84	84
15	REF	EF	(25)	(35)	(45)	(55)	(65)	(75)	(85)	85
25			\sim		\sim		\sim	\sim	\sim	75
35		(16)	(26)	(36)	(46)	(56)	(66)	(76)	(86)	65
<mark>16</mark>		(17)	(27)	(37)	(47)	(57)	(67)	(77)	(87)	86
26		\bigcirc	\sim	\sim	\sim	\sim	\sim	\sim	\bigcirc	76
17			(28)	(38)	(48)	(58)	(68)	(78)		87
27										77
36										66
	<mark>(28) (3</mark>	7) (38)	45 4	6 (48)	(47) (5	7 58	56	55) (68)	67 78	

Numbering

The numbering of MEA electrodes in the 8 x 8 grid follows the standard numbering scheme for square grids: The first digit is the column number, and the second digit is the row number.

For example, electrode 23 is positioned in the third row of the second column.

Note of the Manufacturer

Due to the delicate etching process involved in 3D electrode production, 60-3DMEAs with one high impedance electrode are still considered top quality.

The MEA Electrode IDs are the channel numbers that are used in the data acquisition program. When using MC_Rack software, please select the 2 dimensional layout (or Configuration) in the "Data Source Setup". Electrode 15 is missing in MEAs. It is replaced by a big internal reference electrode, connected to pin 15 of the amplifier.

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